

IN THE CLAIMS:

Please amend Claims 16, 24 and 25 as shown below. The claims, as pending in the subject application, read as follows:

1. (Previously Presented) An information acquisition apparatus comprising:

a stage for placing a specimen;

a cooling means for cooling said specimen;

an exposure means for exposing a surface of said specimen of which surface information is desired; and

an information acquisition means for acquiring the information relating to the surface exposed by said exposure means,

wherein the cooling is carried out at the time of the exposing of the surface.
2. (Previously Presented) An information acquisition apparatus according to claim 1, wherein the exposure by said exposure means and the acquisition of the information by said information acquisition means are executed in a state where said specimen is regulated at a preset temperature by said cooling means.
3. (Previously Presented) An information acquisition apparatus according to claim 1, wherein said cooling means cools said specimen to a temperature lower than the room temperature.

4. (Original) An information acquisition apparatus according to claim 1, wherein said stage, said exposure means and said information acquisition means are provided in a chamber of which atmosphere is controllable, and the information acquisition apparatus further comprises a trap means for capturing gas remaining in said chamber.

5. (Previously Presented) A cross section evaluating apparatus comprising:

a stage for placing a specimen;

a cooling means for cooling said specimen;

an ion beam generation means for irradiating said specimen with an ion beam thereby cutting out a cross section or working said specimen;

an electron beam generation means for irradiating said specimen with an electron beam; and

a detection means for detecting an emission signal emitted from said specimen in response to the irradiation with said ion beam or the irradiation with said electron beam, to acquire information from said detection means,

wherein the cooling is carried out at the time of the cutting out of the cross section.

6. (Previously Presented) A cross section evaluating apparatus according to claim 5, wherein said cooling means cools said specimen to a temperature lower than the room temperature.

7. (Original) A cross section evaluating apparatus according to claim 5, wherein said stage, said ion beam generation means, said electron beam generation means and said detection means are provided in a chamber of which atmosphere is controllable, and the cross section evaluating apparatus further comprises a trap means for capturing gas remaining in said chamber.

8. (Original) A cross section evaluating apparatus according to claim 5, further comprising an information acquisition means for irradiating a predetermined portion of said specimen with said ion beam to cut out a cross section or work the specimen, scanning the surface of said predetermined portion or said cut-out cross section with said ion beam or said electron beam, and acquiring an image information relating to the surface of said predetermined portion or said cut-out cross section based on emission signals from plural point detected by said detection means in synchronization with said scanning.

9. (Previously Presented) A cross section evaluating apparatus according to claim 8, wherein said cooling means is comprised of:

a specimen stage having a temperature varying mechanism in a portion where said specimen is fixed, and rendering the fixed specimen capable of moving and rotating in predetermined directions;

a first temperature detection means mounted in a part of said temperature varying mechanism to detect the temperature of the vicinity of the specimen fixed to said temperature varying mechanism; and

a temperature control means for regulating the temperature in said temperature varying mechanism based on the temperature detected by said first temperature detection means to keep the temperature of said specimen at a preset temperature.

10. (Original) A cross section evaluating apparatus according to claim 9, wherein a lateral face of the specimen fixed on said temperature varying mechanism is irradiated with the ion beam.

11. (Previously Presented) A cross section evaluating apparatus according to claim 9, wherein said cooling means is further comprised of a second temperature detection means for directly detecting the temperature of the specimen and a display means for displaying the temperature detected by said second temperature detection means.

12. (Original) A cross section evaluating apparatus according to claim 11, wherein said temperature control means regulates the temperature in said temperature varying mechanism based on temperatures detected by the first and second temperature detection means.

13. (Original) A cross section evaluating apparatus according to any of claims 5 to 10, wherein said emission signal is a secondary electron and/or a characteristic X-ray.

14. (Original) A cross section evaluating apparatus according to claim 13, wherein said emission signal is a secondary electron or a characteristic X-ray.

15. (Original) A cross section evaluating apparatus according to any of claims 5 to 10, wherein said detection means is comprised of a first detector for detecting a secondary electron and a second detector for detecting a characteristic X-ray.

16. (Currently Amended) A cross section evaluating method comprising the steps of:

cooling a specimen;

irradiating a predetermined portion of said specimen with an ion beam to cut out a cross section; and

scanning said cut-out cross section with an electron beam and acquiring an image relating to said cross section from an emission signal emitted from plural points in synchronization with said scanning,

wherein the cooling is carried out at the time of irradiating the predetermined portion of said specimen with the ion beam.

17. (Original) A cross section evaluating method according to claim 16, wherein said emission signal is a secondary electron and/or a characteristic X-ray.

18. (Cancelled)

19. (Previously Presented) A cross section evaluating method according to claim 17, wherein said emission signal is a secondary electron or a characteristic X-ray.

20. (Previously Presented) An information acquisition apparatus comprising:

a stage for placing a specimen;

a cooling means for cooling said specimen;

an ion beam generation means for irradiating said specimen with an ion beam thereby cutting out a cross section or working said specimen;

an electron beam generation means for irradiating said specimen with an electron beam; and

a detection means for detecting an emission signal emitted from said specimen in response to the irradiation with said ion beam or the irradiation with said electron beam, to acquire information from said detection means,

wherein the cooling is carried out at the time of the cutting out of the cross section.

21. (Original) An information acquisition apparatus according to claim 20, wherein said stage, said ion beam generation means, said electron beam generation means and said detection means are provided in a chamber of which atmosphere is controllable, and the cross section evaluating apparatus further comprises a trap means for capturing gas remaining in said chamber.

22. (Original) An information acquisition apparatus according to claim 1, said information acquisition apparatus further comprising a sealing means for sealing said stage to transfer the same in the outside air-tight state.

23. (Previously Presented) A cross section working apparatus for working a cross section of a specimen, comprising:

- a stage for placing the specimen;
- a cooling means for cooling said specimen;
- a beam generation means for irradiating the specimen with a beam to execute a working of the specimen; and
- a sealing means for sealingly accommodating the specimen and the stage before conveying the stage and the specimen prior to working,

wherein the cooling is carried out at the time of the executing of the working of the specimen.

24. (Currently Amended) A cross section evaluating method, comprising:

- a first step of cooling a specimen;
- a second step of irradiating a beam onto the specimen and cutting out a cross section;
- a third step of sealing the specimen which is temperature-regulated;
- a fourth step of conveying the sealed specimen to another apparatus; and

a fifth step of evaluating the cross section of the conveyed specimen by using another apparatus,

wherein the cooling is carried out at the time of irradiating the specimen with the beam.

25. (Currently Amended) An information acquisition apparatus comprising:

a stage for placing a specimen;

a cooling means for cooling said specimen; and

an information acquisition means for acquiring the information relating to the surface of the specimen,

wherein said cooling means operates to regulate the temperature such that the temperature of the specimen is regulated at the predetermined temperature for acquiring the accurate information,

wherein the cooling is carried out at the time of acquiring the information relating to the surface of the specimen.

26. (Previously Presented) A working apparatus for working a specimen comprising:

a stage for placing a specimen;

a cooling means for cooling the specimen; and

a beam generation means for generating a beam with which the specimen is irradiated so as to work the specimen, wherein the cooling means cools the specimen at the time of the working of the specimen.